REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 8-17, 25-30 and 32 are in the case.

I. THE OBVIOUSNESS REJECTIONS

Claims 8-16, 18, 25-29 and 32 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over EP 0196,622 in view of Gatumel et al. That rejection is respectfully traversed.

As now claimed, the method of the invention is for reducing deposition of mineral salts from an aqueous supersaturated solution onto a solid surface in contact with the aqueous supersaturated solution. The method consists essentially of the steps of (a) forming a composition comprising a dispersion of either (i) seed crystals of the mineral salt in an aqueous solution of the mineral salt or (ii) seed crystals of a salt isomorphous with the mineral salt in an aqueous solution of the isomorphous salt wherein the dispersed seed crystals are of mean particle size of less than 2.5 microns and have been obtained via generation of cavitation in an aqueous supersaturated solution of the mineral salt or a salt isomorphous with the mineral salt; (b) distributing the composition into an aqueous precursor liquid of the aqueous supersaturated solution which aqueous precursor liquid is saturated with respect to the seeds, and converting the aqueous precursor liquid into an aqueous supersaturated solution of the mineral salt by (i) cooling and/or reducing the pressure of the aqueous precursor liquid or (ii) by adding a complementary iron to the precursor liquid; and; (c) contacting the aqueous supersaturated solution with the solid surface.

A method of distributing a composition of seed crystals into an aqueous precursor liquid (which is not supersaturated) is not described or suggested by EP 916622, when take alone or in combination with Gatumel. EP 916622 discloses addition of a scale formation preventer (such as particles of calcium sulphate) to a composition which is already in a supersaturated condition. Thus, it can be seen from reference to Figure 1 and the Examples that the complementary ions, e.g. calcium and sulphate, are fed from tanks A and B into tank D where a supersaturated solution is formed (see page 5, lines 22-23). Calcium sulphate particles are then added into this supersaturated solution from tank C.

It has been found according to the present invention that with more highly reactive systems such as those comprising barium and sulphate ions, the method described in EP 916622 would not be very suitable and would still lead to a large amount of mineral salt deposition. This is because with highly reactive ions such as barium and sulphate, when these are mixed in the absence of seed crystals, spontaneous nucleation would occur very rapidly. Crystallisation (and therefore unwanted deposition of mineral salt) would occur within seconds, and this could not be prevented by the subsequent addition of seed crystals to the supersaturated solution (as occurs in EP 916622). This phenomenon is critical, particularly in the oil industry where high levels of supersaturation are encountered, and where barium and sulphate ions are routinely present. The method of EP 916622 would not be suitable or efficient enough under these conditions.

By contrast, in accordance with the amended claims presented herewith, in the present method the seed crystals are added to a precursor solution which is not

supersaturated with respect to either of the reactive ions. Only thereafter is it allowed to mix downstream with a solution of complementary ions which will then lead to a condition of supersaturation. However, because the seed crystals are already present, deposition of mineral salt from the supersaturated solution is minimised. The additional features of converting the precursor liquid into a supersaturated solution by cooling and/or reducing the pressure of the aqueous precursor liquid or by adding a complimentary ion into the precursor liquid (both of these are after addition of seed crystals) are likewise not disclosed or suggested by EP 916622. Thus, there would have been no motivation for the skilled person to modify EP 916622 to arrive at the presently claimed method because the method of EP 916622 works satisfactorily in the field for which it is described, name paper-making. It would, therefore, not have been obvious to one of ordinary skill based on EP 916622 that a substantial improvement in the reduction of deposition of mineral salts could be obtained in fields such as the oil industry by employing the presently claimed process.

Gatumel does cure the deficiencies of EP 916622 in regard to the presently claimed invention. Gatumel is relied upon for an alleged disclosure relating to nucleation process for producing barium sulfate crystals using ultrasonic vibrations. Other than this, Gatumel is not relevant to the invention as claimed and does not give rise to a *prima facie* case of obviousness, either when taken alone or in combination with EP 916622.

In light of the above, it is clear that one of ordinary skill in the art would not have been motivated to arrive at the presently claimed invention based on the combined disclosures of the prior art relied on by the Examiner. Absent any such motivation, it is

clear that a *prima facie* case of obviousness has not been generated in this case. Reconsideration and withdrawal of the outstanding obviousness rejection of claims 8-16, 18, 25-29 and 32 are accordingly respectfully requested.

Claim 17 stands rejected under 35 U.S.C. §103(a) as allegedly unpatentable over EP '622 in view of Gatumel et al and further in view of Baumgard '966. This rejection is respectfully traversed.

Claim 17 has been amended to specify distribution of the composition into the aqueous precursor liquid being performed 2 to 4 times with the distribution being in series or parallel or a combination of both. The combined disclosures of EP '622 and Gatumel et al do not suggest claim 17 (which is dependent on claim 8) for the above discussed reasons. Baumgard does not cure the deficiencies of the two primary references relied upon to reject claim 17. The art relied upon does not suggest distribution of the composition into the aqueous precursor liquid being performed 2 to 4 times with the distribution being a series or parallel or a combination of both. Withdrawal of the outstanding rejection of claim 17 is accordingly respectfully requested.

II. ALLOWABLE SUBJECT MATTER

It is noted, with appreciation, that claim 30 is free of the prior art. Based on the amendments and arguments presented above, it is believed that all of the claims in this application are now in condition for allowance. Early notice to that effect is respectfully requested.

Favorable action on the application is awaited.

Respectfully submitted,

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